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(11) **EP 0 882 433 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**24.05.2000 Bulletin 2000/21**

(51) Int. Cl.<sup>7</sup>: **A61C 5/02**

(43) Date of publication A2:  
**09.12.1998 Bulletin 1998/50**

(21) Application number: **98202438.2**

(22) Date of filing: **28.04.1995**

(84) Designated Contracting States:  
**CH DE ES FR GB IT LI SE**

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(30) Priority: **28.04.1994 US 234290**

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(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:  
**95302902.2 / 0 684 019**

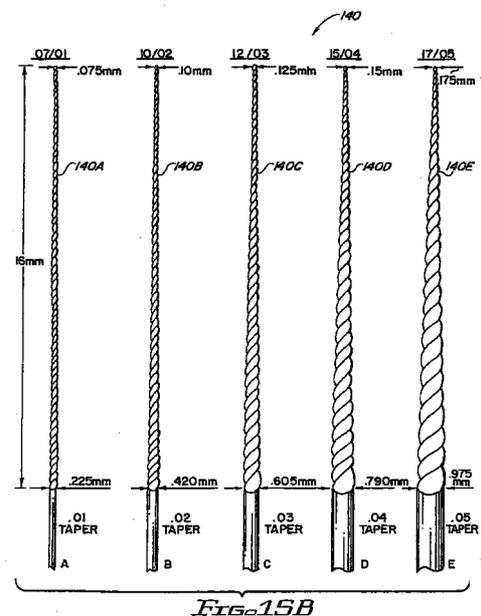
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(54) **Endodontic treatment system**

(57) A set of files (140A, 140B, 140C, 140D, 140E) have tip diameters which increase from 0.075 mm for file 140A to 0.175mm for file 140E in increments of 0.025mm. Each file has a flute length of 16mm.

The maximum flute diameter increases proportionally from 0.235mm for file 140A to 0.975mm for file 140E. Tapers increase in 0.01 mm/mm increments from file 140A with a taper of 0.01 mm/mm to file 140E with a taper of 0.05 mm/mm.

This assortment of increasing tip diameters and tapers with increasing file size allows a 0.15mm file maximal stiffness which is needed when attempting to find and enter an occluded calcified canal prior to shifting to a 0.075mm file which provides the maximum tactile response when negotiating the often tortuous terminal aspect of a canal after coronal enlargement with the larger file.



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EUROPEAN SEARCH REPORT

Application Number  
EP 98 20 2438

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	FR 2 597 327 A (RIITANO) 23 October 1987 (1987-10-23) * abstract; figure 3 * * page 6, line 9 - line 26; claims 1,3 *	1	A61C5/02
A	EP 0 501 255 A (LES FILS D'AUGUSTE MAILLEFER S.A. A BALLAIGUES) 2 September 1992 (1992-09-02) * abstract; claims 1,2; figures 1,3 *	1,7	
A	EP 0 257 961 A (BUCHANAN) 2 March 1988 (1988-03-02) * column 2, line 27 - line 59; figure 5 *	1	
A	FR 2 617 704 A (RIITANO) 13 January 1989 (1989-01-13) * page 6, line 24 - page 7, line 16; figures *	1	
A	CH 291 668 A (ANTAEOS-WERKE GMBH) * the whole document *	1	
A	FR 2 647 663 A (MICRO MEGA SA) 7 December 1990 (1990-12-07) * abstract; figure 1 *	7,8	
A	US 3 330 040 A (KAHN) 11 July 1967 (1967-07-11) * figures *	7	
A	CH 657 981 A (FLUCKIGER & HUGUENIN S.A.) 15 October 1986 (1986-10-15) * abstract *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A61C
Place of search	Date of completion of the search	Examiner	
BERLIN	3 April 2000	Kanal, P	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

EPO FORM 1503 03.92 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 20 2438

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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03-04-2000

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2597327	A	23-10-1987	NONE	
EP 501255	A	02-09-1992	CH 685097 A JP 5092013 A US 5219284 A	31-03-1995 16-04-1993 15-06-1993
EP 257961	A	02-03-1988	US 4836780 A AT 64522 T BR 8704222 A CN 1013827 B JP 1806324 C JP 5010943 B JP 63059948 A KR 9405297 B	06-06-1989 15-07-1991 12-04-1988 11-09-1991 10-12-1993 12-02-1993 15-03-1988 16-06-1994
FR 2617704	A	13-01-1989	IT 1211650 B CH 678008 A DE 3822889 A JP 1091850 A JP 2578478 B US 4971556 A	03-11-1989 31-07-1991 19-01-1989 11-04-1989 05-02-1997 20-11-1990
CH 291668	A		NONE	
FR 2647663	A	07-12-1990	CS 9002778 A SK 278761 B	16-09-1992 04-02-1998
US 3330040	A	11-07-1967	NONE	
CH 657981	A	15-10-1986	NONE	